TDMS No. 97003 - 07 Test Type: CHRONIC Route: SKIN APPLICATION Species/Strain: RATS/F 344

P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

1,2-Dibromo-2,4-dicyanobutane **CAS Number:** 35691-65-7

F_1.Rev.1_R2

C Number: C97003D

Lock Date: 03/23/2005

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include ALL

TDMSE Version: 1.8.0

Date Report Reqsted: 08/21/2007 Time Report Regsted: 12:46:31 First Dose M/F: 07/10/02 / 07/11/02

1,2-Dibromo-2,4-dicyanobutane
CAS Number: 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

Lab: BAT

| FISCHER 344 RATS MALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG |
|---|--------------------|-----------------|------------------|------------------|
| Disposition Summary | | | | |
| Animals Initially in Study | 50 | 50 | 50 | 50 |
| Early Deaths | | | | |
| Moribund Sacrifice | 19 | 15 | 17 | 12 |
| Natural Death | 6 | 8 | 6 | 1 |
| Survivors | | | | |
| Terminal Sacrifice | 25 | 27 | 27 | 37 |
| Animals Examined Microscopically | 50 | 50 | 50 | 50 |
| ALIMENTARY SYSTEM | | | | |
| Esophagus | (50) | (50) | (50) | (50) |
| Inflammation | 1 (2%) | | | 1 (2%) |
| Intestine Large, Cecum | (50) | (50) | (50) | (50) |
| Inflammation | 1 (2%) | (==) | (==) | (==) |
| Intestine Large, Colon | (50) | (50) | (50) | (50) |
| Parasite Metazoan | 4 (00() | 1 (2%) | 2 (4%) | 3 (6%) |
| Serosa, Cyst, Focal | 1 (2%) | (50) | (50) | (50) |
| Intestine Large, Rectum Parasite Metazoan | (50) 3 (6%) | (50) 8 (16%) | (50) 9 (18%) | (50) 4 (8%) |
| Muscularis, Hypertrophy | 3 (6%) | 8 (10%) | 9 (16%) | 1 (2%) |
| Intestine Small, Duodenum | (50) | (50) | (50) | (50) |
| Erosion | 1 (2%) | (30) | (30) | (50) |
| Inflammation | 1 (2%) | | | |
| Intestine Small, Ileum | (50) | (50) | (50) | (50) |
| Intestine Small, Jejunum | (50) | (50) | (50) | (50) |
| Liver | (50) | (50) | (50) | (50) |
| Angiectasis | | | | 1 (2%) |
| Basophilic Focus | 24 (48%) | 20 (40%) | 22 (44%) | 26 (52%) |
| Clear Cell Focus | 17 (34%) | 19 (38%) | 19 (38%) | 21 (42%) |
| Congestion | | 4 (001) | | 1 (2%) |
| Cyst | 6 (400/) | 1 (2%) | 4 (00/) | 4 (00/) |
| Degeneration, Cystic | 6 (12%) | 3 (6%) | 4 (8%) | 1 (2%) |
| Eosinophilic Focus Fatty Change | 6 (12%) | | 1 (2%) 1 (2%) | 2 (4%) |
| Hematopoietic Cell Proliferation | 5 (12%) 5 (10%) | 5 (10%) | 1 (2%) | 2 (4%) 1 (2%) |
| Hepatodiaphragmatic Nodule | 6 (12%) | 8 (16%) | 9 (18%) | 3 (6%) |
| Inflammation | 32 (64%) | 34 (68%) | 32 (64%) | 35 (70%) |
| Mixed Cell Focus | 9 (18%) | 8 (16%) | 6 (12%) | 11 (22%) |
| Necrosis | 2 (4%) | 3 (1373) | 1 (2%) | 1 (2%) |
| Bile Duct, Cyst | _ (, | | 1 (2%) | . (=,-, |
| Bile Duct, Hyperplasia | 43 (86%) | 45 (90%) | 46 (92%) | 46 (92%) |

TDMS No. 97003 - 07

Test Type: CHRONIC

Route: SKIN APPLICATION
Species/Strain: RATS/F 344

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 97003 - 07
Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: RATS/F 344

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

Lab: BAT

| FISCHER 344 RATS MALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|--------------------------------------|----------|----------|----------|----------|--|
| Hepatocyte, Atypia Cellular | | 1 (2%) | | | |
| Hepatocyte, Hyperplasia | 2 (4%) | (=75) | 1 (2%) | | |
| Hepatocyte, Hypertrophy | 1 (2%) | 1 (2%) | 1 (2%) | | |
| Mesentery | (10) | (6) | (10) | (9) | |
| Inflammation | 1 (10%) | ` , | , , | 1 (11%) | |
| Necrosis | 9 (90%) | 6 (100%) | 7 (70%) | 7 (78%) | |
| Pancreas | (50) | (50) | (50) | (50) | |
| Inflammation | 1 (2%) | | | | |
| Acinus, Atrophy | 16 (32%) | 18 (36%) | 15 (30%) | 18 (36%) | |
| Acinus, Hyperplasia | | | 1 (2%) | | |
| Artery, Inflammation, Chronic Active | | | | 1 (2%) | |
| Duct, Cyst | 9 (18%) | 9 (18%) | 5 (10%) | 7 (14%) | |
| Salivary Glands | (50) | (50) | (50) | (50) | |
| Basophilic Focus | 1 (2%) | | | | |
| Inflammation | | 1 (2%) | | | |
| Stomach, Forestomach | (50) | (50) | (50) | (50) | |
| Edema | 2 (4%) | | | 1 (2%) | |
| Erosion | | | | 1 (2%) | |
| Inflammation | 5 (10%) | 2 (4%) | 1 (2%) | 2 (4%) | |
| Ulcer | 3 (6%) | 2 (4%) | 2 (4%) | 3 (6%) | |
| Epithelium, Hyperplasia | | | 2 (4%) | 1 (2%) | |
| Serosa, Inflammation | | | | 1 (2%) | |
| Stomach, Glandular | (50) | (50) | (50) | (50) | |
| Edema | 1 (2%) | | | 1 (2%) | |
| Erosion | 4 (8%) | | | 2 (4%) | |
| Inflammation | 4 (8%) | 3 (6%) | | 2 (4%) | |
| Pigmentation | 1 (2%) | | | | |
| Thrombosis | 1 (2%) | | | | |
| Ulcer | | 1 (2%) | | | |
| Glands, Hyperplasia | | 1 (2%) | | | |
| Tooth | (0) | (0) | (1) | (1) | |
| Inflammation | | | | 1 (100%) | |
| Peridontal Tissue, Malformation | | | 1 (100%) | | |
| RDIOVASCULAR SYSTEM | | | | | |
| Heart | (50) | (50) | (50) | (50) | |
| Cardiomyopathy | 46 (92%) | 46 (92%) | 49 (98%) | 46 (92%) | |
| Atrium, Thrombosis | 2 (4%) | | 1 (2%) | 4 (00() | |
| Pericardium, Inflammation | | | | 1 (2%) | |
| Valve, Inflammation | | | | 1 (2%) | |

ENDOCRINE SYSTEM

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 97003 - 07
Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: RATS/F 344

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

Lab: BAT

| FISCHER 344 RATS MALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|--|----------|----------|----------|----------|--|
| Adrenal Cortex | (50) | (50) | (50) | (50) | |
| Angiectasis | (==) | () | () | 1 (2%) | |
| Atrophy | | | | 1 (2%) | |
| Degeneration, Cystic | 4 (8%) | | | 1 (2%) | |
| Hyperplasia | 9 (18%) | 7 (14%) | 6 (12%) | 14 (28%) | |
| Hypertrophy | 12 (24%) | 9 (18%) | 4 (8%) | 14 (28%) | |
| Vacuolization Cytoplasmic | 29 (58%) | 25 (50%) | 28 (56%) | 26 (52%) | |
| Adrenal Medulla | (50) | (50) | (50) | (50) | |
| Hyperplasia | 13 (26%) | 12 (24%) | 14 (28%) | 13 (26%) | |
| Hypertrophy | 1 (2%) | | 1 (2%) | | |
| Mineralization | 1 (2%) | | | | |
| Necrosis | 1 (2%) | | | | |
| Islets, Pancreatic | (50) | (50) | (50) | (50) | |
| Hyperplasia | 1 (2%) | 2 (4%) | 3 (6%) | 3 (6%) | |
| Parathyroid Gland | (49) | (47) | (49) | (46) | |
| Hyperplasia | | | | 1 (2%) | |
| Pituitary Gland | (50) | (50) | (50) | (50) | |
| Pars Distalis, Cyst | 3 (6%) | 4 (8%) | 2 (4%) | 3 (6%) | |
| Pars Distalis, Hyperplasia | 17 (34%) | 15 (30%) | 19 (38%) | 16 (32%) | |
| Pars Distalis, Pigmentation, Hemosiderin | 1 (2%) | | | | |
| Thyroid Gland | (50) | (50) | (50) | (50) | |
| Hemorrhage | | 1 (2%) | | | |
| Infiltration Cellular, Mononuclear Cell | 1 (2%) | | | | |
| Inflammation | | | | 1 (2%) | |
| Thrombosis | | 1 (2%) | | | |
| C-cell, Hyperplasia | 9 (18%) | 16 (32%) | 15 (30%) | 13 (26%) | |
| Follicular Cell, Hyperplasia | 1 (2%) | | 1 (2%) | 1 (2%) | |

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

| Epididymis Inflammation | (50) | (50) 1 (2%) | (50) 1 (2%) | (50) 1 (2%) |
|----------------------------|----------|----------------|----------------|----------------|
| Preputial Gland | (50) | (50) | (50) | (50) |
| Hyperplasia | (66) | 1 (2%) | 1 (2%) | 1 (2%) |
| Inflammation | 1 (2%) | , | , | 1 (2%) |
| Duct, Cyst | 2 (4%) | | | , , |
| Prostate | (50) | (50) | (50) | (50) |
| Cyst | | | | 1 (2%) |
| Fibrosis | 1 (2%) | | | |
| Inflammation | 40 (80%) | 36 (72%) | 37 (74%) | 39 (78%) |

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC 1,2-E
Route: SKIN APPLICATION CA
Species/Strain: RATS/F 344

TDMS No. 97003 - 07

1,2-Dibromo-2,4-dicyanobutane
CAS Number: 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

| FISCHER 344 RATS MALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|--|-----------|-----------|----------|-----------|--|
| | | | | | |
| Epithelium, Hyperplasia | 18 (36%) | 19 (38%) | 11 (22%) | 19 (38%) | |
| Seminal Vesicle | (50) | (50) | (50) | (50) | |
| Inflammation | 1 (2%) | | | | |
| _ Epithelium, Hyperplasia | () | () | () | 1 (2%) | |
| Testes | (50) | (50) | (50) | (50) | |
| Atrophy | 10 (20%) | 7 (14%) | 3 (6%) | 14 (28%) | |
| Inflammation | 45 (000() | 40 (000() | 1 (2%) | 1 (2%) | |
| Interstitial Cell, Hyperplasia | 15 (30%) | 19 (38%) | 16 (32%) | 20 (40%) | |
| HEMATOPOIETIC SYSTEM | | | | | |
| Bone Marrow | (50) | (50) | (50) | (50) | |
| Hemorrhage | | | | 1 (2%) | |
| Hyperplasia | 20 (40%) | 23 (46%) | 23 (46%) | 18 (36%) | |
| Lymph Node | (6) | (4) | (5) | (6) | |
| Deep Cervical, Ectasia | | | . (222) | 1 (17%) | |
| Mediastinal, Infiltration Cellular, Histiocyte | (50) | (50) | 1 (20%) | (50) | |
| Lymph Node, Mesenteric | (50) | (50) | (50) | (50) | |
| Ectasia | | 1 (2%) | | 1 (2%) | |
| Hyperplasia, Lymphoid | 4 (20/) | | | 1 (2%) | |
| Hyperplasia, Plasma Cell Spleen | 1 (2%) | (50) | (50) | (50) | |
| Spieen Fibrosis | (50) | (50) | (50) | 1 (2%) | |
| Hematopoietic Cell Proliferation | 3 (6%) | | | 1 (2/0) | |
| Hemorrhage | 3 (078) | 2 (4%) | 2 (4%) | 1 (2%) | |
| Hyperplasia, Lymphoid | 2 (4%) | 1 (2%) | 4 (8%) | 1 (2%) | |
| Infarct | 1 (2%) | 2 (4%) | . (373) | . (270) | |
| Thymus | (49) | (46) | (48) | (44) | |
| Mineralization | 1 (2%) | (15) | (15) | (, | |
| NTEGUMENTARY SYSTEM | | | | | |
| Mammary Gland | (50) | (49) | (49) | (50) | |
| Cyst | . , | . , | • • | 1 (2%) | |
| Hyperplasia | | 2 (4%) | | | |
| Inflammation | 3 (6%) | | 2 (4%) | 2 (4%) | |
| Skin | (50) | (50) | (50) | (50) | |
| Cyst | | | | 1 (2%) | |
| Dermis, Inflammation | 1 (2%) | | | | |
| Epidermis, Hyperplasia | 1 (2%) | | | | |
| Hair Follicle, Cyst | | 1 (2%) | | 1 (2%) | |
| Site Of Application - Dermis, Fibrosis | | 2 (121) | (222) | 4 (8%) | |
| Site Of Application - Dermis, Inflammation | | 2 (4%) | 11 (22%) | 45 (90%) | |
| Site Of Application - Epidermis, | | 9 (18%) | 47 (94%) | 50 (100%) | |

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 97003 - 07
Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: RATS/F 344

1,2-Dibromo-2,4-dicyanobutane **CAS Number:** 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

| FISCHER 344 RATS MALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|--|---|---|---|---|--|
| Hyperkeratosis Site Of Application - Epidermis, Hyperplasia Site Of Application - Epidermis, Necrosis | 1 (2%) | 5 (10%) | 10 (20%) | 50 (100%) 3 (6%) | |
| MUSCULOSKELETAL SYSTEM | | | | | |
| Bone Osteosclerosis Skeletal Muscle | (50) (0) | (50) (0) | (50) (0) | (50) 1 (2%) (1) | |
| NERVOUS SYSTEM | | | | | |
| Brain Hemorrhage Hydrocephalus Infiltration Cellular, Lymphocyte Cerebrum, Developmental Malformation, Focal | (50) 1 (2%) 1 (2%) 1 (2%) | (50) 4 (8%) 2 (4%) | (50) 6 (12%) | (50) 1 (2%) 1 (2%) 1 (2%) | |
| Cerebrum, Edema Cerebrum, Hemorrhage Spinal Cord | 1 (2%) 1 (2%) (2) | (0) | (0) | (0) | |
| RESPIRATORY SYSTEM | | | | | |
| Lung Hemorrhage Inflammation Metaplasia, Squamous Thrombosis | (50) 13 (26%) | (50) 4 (8%) 1 (2%) | (50) 1 (2%) 10 (20%) 1 (2%) | (50) 13 (26%) | |
| Alveolar Epithelium, Hyperplasia Alveolus, Infiltration Cellular, Histiocyte Serosa, Fibrosis Nose Fibrosis Inflammation | 6 (12%) 14 (28%) 1 (2%) (50) | 8 (16%) 24 (48%) (50) 21 (42%) | 8 (16%) 25 (50%) (50) 1 (2%) 23 (46%) | 5 (10%) 19 (38%) 1 (2%) (50) 1 (2%) 25 (50%) | |
| Thrombosis Respiratory Epithelium, Hyperplasia Trachea Fibrosis Infiltration Cellular, Mononuclear Cell Inflammation | 1 (2%) (50) 1 (2%) 1 (2%) 2 (4%) | 1 (2%) | (50) | 1 (2%) (50) | |

a - Number of animals examined microscopically at site and number of animals with lesion

1,2-Dibromo-2,4-dicyanobutane
CAS Number: 35691-65-7

TDMS No. 97003 - 07 Test Type: CHRONIC

Route: SKIN APPLICATION
Species/Strain: RATS/F 344

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

Lab: BAT

| FISCHER 344 RATS MALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|---|--------------------------|----------------------------|--------------------|--------------------|--|
| SPECIAL SENSES SYSTEM | | | | | |
| Eye Cataract Retinal Detachment Synechia | (50) 1 (2%) | (50) 2 (4%) 1 (2%) | (50) 1 (2%) | (50) | |
| Retina, Atrophy Retina, Dysplasia Harderian Gland | 1 (2%) | 2 (4%) 2 (4%) 1 (2%) | 1 (2%) 1 (2%) | 2 (4%) | |
| Hyperplasia Inflammation Zymbal's Gland | (50) 1 (2%) 1 (2%) | (50) 1 (2%) 1 (2%) | (50) 1 (2%) | (50) 2 (4%) | |
| JRINARY SYSTEM | (0) | (1) | (1) | (0) | |
| | | | | | |
| Kidney | (50) | (50) | (50) | (50) | |
| Cyst Hydronephrosis Infarct | 1 (2%) | 2 (4%) 1 (2%) | 2 (4%) 1 (2%) | 4 (8%) 1 (2%) | |
| Mineralization Necrosis | 32 (64%) | 41 (82%) | 38 (76%) | 26 (52%) 1 (2%) | |
| Nephropathy Transitional Epithelium, Hyperplasia | 46 (92%) 1 (2%) | 44 (88%) | 39 (78%) 1 (2%) | 47 (94%) 1 (2%) | |
| Urinary Bladder Inflammation Transitional Epithelium, Hyperplasia | (50) 1 (2%) 1 (2%) | (50) | (50) | (50) | |

*** END OF MALE ***

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 97003 - 07
Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: RATS/F 344

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

| FISCHER 344 RATS FEMALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG |
|---|-------------------|--------------------|------------------|-------------------|
| Disposition Summary | | | | |
| Animals Initially in Study Early Deaths | 50 | 50 | 50 | 50 |
| Moribund Sacrifice | 17 | 16 | 17 | 14 |
| Natural Death | 4 | 2 | 9 | 5 |
| Survivors | 20 | 20 | 0.4 | 24 |
| Terminal Sacrifice Animals Examined Microscopically | 29 50 | 32 50 | 24 50 | 31 50 |
| , | | | | |
| LIMENTARY SYSTEM | | | | |
| Intestine Large, Colon Erosion | (50) 1 (2%) | (50) | (50) | (50) |
| Parasite Metazoan | 1 (2%) | 2 (4%) | 2 (4%) | 1 (2%) |
| Intestine Large, Rectum | (50) | (50) | (50) | (50) |
| Diverticulum | (33) | 1 (2%) | (00) | (55) |
| Parasite Metazoan | 8 (16%) | 9 (18%) | 10 (20%) | 9 (18%) |
| Liver | (50) | (50) | (50) | (50) |
| Angiectasis | | 1 (2%) | | |
| Basophilic Focus | 43 (86%) | 35 (70%) | 40 (80%) | 39 (78%) |
| Clear Cell Focus | 4 (8%) | 7 (14%) | 3 (6%) | 1 (2%) |
| Fatty Change | 1 (2%) | 3 (6%) | 2 (4%) | 1 (2%) |
| Hematopoietic Cell Proliferation | 5 (10%) | 3 (6%) | 2 (4%) | 3 (6%) |
| Hemorrhage | 7 (4 40() | 1 (2%) | F (400() | 1 (2%) |
| Hepatodiaphragmatic Nodule | 7 (14%) | 5 (10%) | 5 (10%) | 7 (14%) |
| Inflammation Mixed Cell Focus | 43 (86%) | 33 (66%) 1 (2%) | 34 (68%) | 30 (60%) |
| Necrosis | 5 (10%) 1 (2%) | 1 (2%) 2 (4%) | 1 (2%) 2 (4%) | 6 (12%) 1 (2%) |
| Bile Duct, Hyperplasia | 16 (32%) | 11 (22%) | 10 (20%) | 15 (30%) |
| Hepatocyte, Atypia Cellular | 10 (02/0) | 11 (22 /0) | 1 (2%) | 13 (3070) |
| Hepatocyte, Hyperplasia | | | 1 (2%) | |
| Hepatocyte, Hypertrophy | 4 (8%) | 1 (2%) | 1 (2%) | |
| Hepatocyte, Regeneration | , | (/ | (/ | 1 (2%) |
| Portal, Fibrosis | 1 (2%) | | | |
| Mesentery | (14) | (12) | (12) | (12) |
| Inflammation | | | | 1 (8%) |
| Necrosis | 14 (100%) | 12 (100%) | 12 (100%) | 10 (83%) |
| Pancreas | (50) | (50) | (50) | (50) |
| Basophilic Focus | | | 1 (2%) | 4 (00() |
| Inflammation | 0 (480/) | 0 (400/) | 47 (240/) | 1 (2%) |
| Acinus, Atrophy | 9 (18%) | 9 (18%) | 17 (34%) | 11 (22%) |
| Acinus, Hyperplasia | 1 (2%) | | | |

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 97003 - 07
Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: RATS/F 344

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

| FISCHER 344 RATS FEMALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|-----------------------------------|---------------|-----------------|-----------|-----------|--|
| | | | | | |
| Duct, Cyst | 5 (10%) | 3 (6%) | 2 (4%) | 6 (12%) | |
| Salivary Glands | (50) | (50) | (50) | (50) | |
| Basophilic Focus | 1 (2%) | () | (/ | () | |
| Inflammation | ((, , , ,) | | | 1 (2%) | |
| Stomach, Forestomach | (50) | (50) | (50) | (50) | |
| Edema | 1 (2%) | (33) | (00) | (00) | |
| Fibrosis | . (278) | | 1 (2%) | | |
| Inflammation | 1 (2%) | 1 (2%) | 1 (2%) | 2 (4%) | |
| Ulcer | 3 (6%) | 1 (270) | 1 (2%) | 2 (4%) | |
| Stomach, Glandular | (50) | (50) | (50) | (50) | |
| Erosion | 2 (4%) | 1 (2%) | 2 (4%) | (30) | |
| Inflammation | 1 (2%) | 1 (2/0) | 1 (2%) | | |
| Glands, Hyperplasia | 1 (2%) | | 1 (270) | | |
| Tooth | (1) | (0) | (0) | (0) | |
| room | (1) | (0) | (0) | (0) | |
| ARDIOVASCULAR SYSTEM | | | | | |
| Blood Vessel | (50) | (50) | (50) | (50) | |
| Heart | (50) | (50) | (50) | (50) | |
| Cardiomyopathy | 50 (100%) | 44 (88%) | 46 (92%) | 43 (86%) | |
| Inflammation | 30 (10078) | 44 (0070) | 40 (92 %) | 1 (2%) | |
| Atrium, Thrombosis | | 1 (2%) | | 1 (270) | |
| Autum, miombosis | | 1 (270) | | | |
| NDOCRINE SYSTEM | | | | | |
| Adrenal Cortex | (50) | (50) | (50) | (50) | |
| Accessory Adrenal Cortical Nodule | (/ | () | 1 (2%) | () | |
| Angiectasis | 1 (2%) | | - (-,-, | | |
| Degeneration, Cystic | 1 (2%) | 5 (10%) | 5 (10%) | 4 (8%) | |
| Hyperplasia | 7 (14%) | 12 (24%) | 3 (6%) | 4 (8%) | |
| Hypertrophy | 12 (24%) | 16 (32%) | 18 (36%) | 16 (32%) | |
| Necrosis | (,0) | 1 (2%) | 1 (2%) | (5=75) | |
| Vacuolization Cytoplasmic | 17 (34%) | 11 (22%) | 17 (34%) | 18 (36%) | |
| Bilateral, Atrophy | 1 (2%) | (22,0) | (3.75) | 10 (0070) | |
| Adrenal Medulla | (50) | (50) | (50) | (50) | |
| Hyperplasia | 4 (8%) | 3 (6%) | (00) | 2 (4%) | |
| Hypertrophy | 4 (070) | 1 (2%) | | 2 (470) | |
| Vacuolization Cytoplasmic | | 1 (2%) | | | |
| Islets, Pancreatic | (50) | (50) | (50) | (50) | |
| Hyperplasia | 1 (2%) | (30) | 1 (2%) | (30) | |
| Inflammation | 1 (2%) | | 1 (2/0) | 1 (2%) | |
| Parathyroid Gland | (46) | (48) | (48) | (48) | |
| | (40) | (48) 1 (2%) | (40) | (40) | |
| Hyperplasia Pituitary Gland | (50) | I (270) (EO) | (50) | (50) | |
| Fituliary Gianu | (50) | (50) | (50) | (50) | |

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: RATS/F 344

TDMS No. 97003 - 07

1,2-Dibromo-2,4-dicyanobutane **CAS Number:** 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

| FISCHER 344 RATS FEMALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|---|--|--|--|---|--|
| Hemorrhage Pars Distalis, Cyst Pars Distalis, Hyperplasia Thyroid Gland C-cell, Hyperplasia Follicular Cell, Hyperplasia | 1 (2%) 7 (14%) 17 (34%) (50) 33 (66%) | 15 (30%) 26 (52%) (50) 30 (60%) 1 (2%) | 11 (22%) 20 (40%) (50) 20 (40%) | 14 (28%) 18 (36%) (50) 24 (48%) | |
| GENERAL BODY SYSTEM | | | | | |
| None | | | | | |
| GENITAL SYSTEM | | | | | |
| Clitoral Gland Hyperplasia Inflammation Duct, Cyst Ovary Congestion Cyst Uterus Hemorrhage Hydrometra Inflammation Endometrium, Hyperplasia, Cystic | (50) 1 (2%) 3 (6%) (50) 6 (12%) (50) 1 (2%) 1 (2%) 2 (4%) 2 (4%) | (50) 1 (2%) (50) 7 (14%) (50) 1 (2%) | (50) 1 (2%) 1 (2%) 2 (4%) (50) 1 (2%) 6 (12%) (50) 2 (4%) 1 (2%) | (49) 4 (8%) 2 (4%) 1 (2%) (50) 7 (14%) (50) 1 (2%) 3 (6%) | |
| HEMATOPOIETIC SYSTEM | | | | | |
| Bone Marrow Hyperplasia Lymph Node Deep Cervical, Hemorrhage Mediastinal, Hemorrhage | (50) 15 (30%) (4) 1 (25%) | (50) 15 (30%) (2) 1 (50%) | (50) 14 (28%) (3) | (50) 18 (36%) (5) | |
| Pancreatic, Infiltration Cellular, Histiocyte Lymph Node, Mesenteric Atrophy Hemorrhage | 1 (25%) (50) | (50) 1 (2%) | 1 (33%) (50) 1 (2%) | (50) | |
| Infiltration Cellular, Histiocyte Inflammation Spleen Accessory Spleen | (50) | (50) | 1 (2%) (50) 1 (2%) | 1 (2%) (50) | |
| Atrophy Fibrosis | | 1 (2%) | 1 (270) | 1 (2%) | |

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 97003 - 07
Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: RATS/F 344

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

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| FISCHER 344 RATS FEMALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|---|------------------|------------|------------|------------------|--|
| Hematopoietic Cell Proliferation | 2 (4%) | 2 (4%) | 1 (2%) | | |
| Hemorrhage | (, | | | 1 (2%) | |
| Infarct | | 2 (4%) | 1 (2%) | | |
| Metaplasia, Lipocyte Capsule, Inflammation | 1 (2%) | | 1 (2%) | | |
| Thymus | (45) | (49) | (48) | (45) | |
| Cyst | | | | 2 (4%) | |
| Inflammation | | | | 1 (2%) | |
| NTEGUMENTARY SYSTEM | | | | | |
| Mammary Gland | (50) | (50) | (50) | (50) | |
| Cyst | 2 (4%) | 3 (6%) | 2 (4%) | 2 (4%) | |
| Galactocele Hyperplasia | 1 (2%) 4 (8%) | 3 (6%) | 1 (2%) | 2 (4%) | |
| Infiltration Cellular, Mononuclear Cell | 4 (0%) | 3 (0%) | 1 (270) | 1 (2%) | |
| Inflammation | 2 (4%) | | | 1 (2%) | |
| Skin | (50) | (50) | (50) | (50) | |
| Dermis, Inflammation | 1 (2%) | | | | |
| Epidermis, Necrosis | 4 (00() | 4 (00() | | 1 (2%) | |
| Epidermis, Ulcer Hair Follicle, Cyst | 1 (2%) | 1 (2%) | | 1 (2%) 2 (4%) | |
| Site Of Application - Dermis, Fibrosis | | 1 (2%) | | 1 (2%) | |
| Site Of Application - Dermis, Inflammation | | 5 (10%) | 12 (24%) | 49 (98%) | |
| Site Of Application - Epidermis, | | 6 (12%) | 49 (98%) | 48 (96%) | |
| Hyperkeratosis | | | , , | , , | |
| Site Of Application - Epidermis, Hyperplasia | 4 (8%) | 6 (12%) | 25 (50%) | 49 (98%) | |
| Site Of Application - Epidermis, Necrosis | | 4 (8%) | | 5 (10%) | |
| Site Of Application - Epidermis, Ulcer | | 4 (8%) | | 1 (2%) | |
| MUSCULOSKELETAL SYSTEM | | | | | |
| Bone | (50) | (50) | (50) | (50) | |
| Skeletal Muscle | (1) | (0) | (0) | (1) | |
| IERVOUS SYSTEM | | | | | |
| Brain | (50) | (50) | (50) | (50) | |
| Hemorrhage | 3 (6%) | 1 (2%) | 1 (2%) | 3 (6%) | |
| Hydrocephalus | 2 (4%) | 3 (6%) | (0) | 3 (6%) | |
| Peripheral Nerve Spinal Cord | (2) | (0) (0) | (0) (0) | (1) (1) | |
| Hemorrhage | (1) | (0) | (0) | 1 (100%) | |
| Homormago | | | | 1 (10070) | |

a - Number of animals examined microscopically at site and number of animals with lesion

TDMS No. 97003 - 07
Test Type: CHRONIC
Route: SKIN APPLICATION
Species/Strain: RATS/F 344

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

| FISCHER 344 RATS FEMALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|---|--------------------------|--------------------------|--------------------------------|-------------------------------|--|
| | | | | | |
| RESPIRATORY SYSTEM | | | | | |
| Lung Hematopoietic Cell Proliferation | (50) | (50) 1 (2%) | (50) | (50) | |
| Hemorrhage Inflammation Metaplasia, Squamous | 14 (28%) | 8 (16%) 1 (2%) | 1 (2%) 9 (18%) | 11 (22%) | |
| Alveolar Epithelium, Hyperplasia Alveolus, Infiltration Cellular, Histiocyte Serosa, Inflammation | 12 (24%) 37 (74%) | 8 (16%) 28 (56%) | 7 (14%) 26 (52%) | 8 (16%) 38 (76%) 1 (2%) | |
| Nose Inflammation | (50) 7 (14%) | (50) 10 (20%) | (50) 11 (22%) | (50) 9 (18%) | |
| Polyp, Inflammatory Trachea Inflammation | (50) | (50) | (50) 1 (2%) | 1 (2%) (50) | |
| SPECIAL SENSES SYSTEM | | | | | |
| Eye Cataract Cornea, Edema | (50) 2 (4%) | (50) 3 (6%) 1 (2%) | (50) 2 (4%) | (50) 7 (14%) | |
| Retina, Atrophy Retina, Dysplasia | 3 (6%) | 3 (6%) | 2 (4%) | 7 (14%) 1 (2%) | |
| Harderian Gland Hyperplasia | (50) 1 (2%) | (50) | (50) | (50) 1 (2%) | |
| Inflammation Zymbal's Gland | 3 (6%) (0) | 2 (4%) (2) | (1) | 5 (10%) (0) | |
| JRINARY SYSTEM | | | | | |
| Kidney Cyst Hydronephrosis | (50) 1 (2%) 1 (2%) | (50) | (50) 1 (2%) | (50) | |
| Infarct Inflammation | | 1 (2%) | 1 (2%) | () | |
| Mineralization Necrosis Nephropathy | 39 (78%) 40 (80%) | 31 (62%) 46 (92%) | 34 (68%) 1 (2%) 35 (70%) | 38 (76%) 37 (74%) | |
| Thrombosis Renal Tubule, Hyperplasia | 1 (2%) | 1 (2%) 1 (2%) | 1 (2%) | <i>5.</i> (. 179) | |
| Transitional Epithelium, Hyperplasia Urinary Bladder | 1 (2%) (50) | 1 (2%) (50) | (49) | (50) | |

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TDMS No. 97003 - 07
Test Type: CHRONIC
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Species/Strain: RATS/F 344

P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

1,2-Dibromo-2,4-dicyanobutane CAS Number: 35691-65-7

Date Report Reqsted: 08/21/2007 **Time Report Reqsted:** 12:46:31 **First Dose M/F:** 07/10/02 / 07/11/02

Lab: BAT

| FISCHER 344 RATS FEMALE | 0 MG/KG | 2 MG/KG | 6 MG/KG | 18 MG/KG | |
|-------------------------|---------|---------|---------|----------|--|
| | | | | | |

*** END OF REPORT ***